

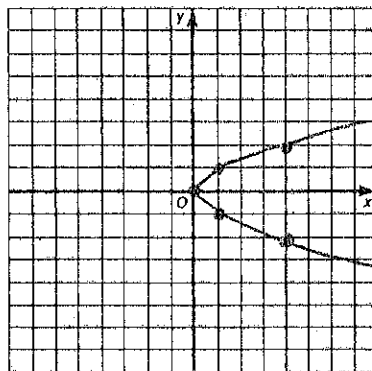
KEY

State whether or not the relation is a function. If it is a function, is it one-to-one.

1.  $\{(-2,4), (-1,1), (0,0), (1,1), (2,4)\}$

2.

Yes, not one-to-one

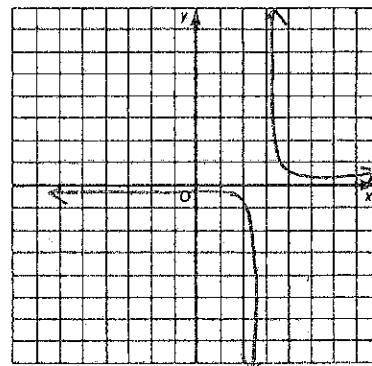
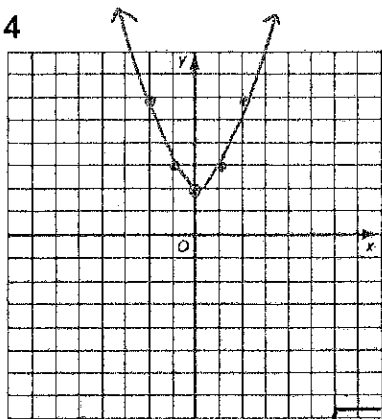


Not a function

Find the domain and range for each function.

# 5 and 6  $y = \frac{1}{x-3}$

# 3 and 4



3. Domain =  ~~$\mathbb{R}$~~

$\mathbb{R}$

4. Range =  ~~$\mathbb{R}$~~

$y \geq 2$

This is interval notation (do not need to know)

Given  $f(x) = x^2 - 2x + 3$ ,  $g(x) = 3x - 2$ , find the following:

7.  $f(-2) = 4 + 4 + 3 = 11$

5. Domain = all reals except  $x=3$

6. Range = all reals except 0

8.  $g(a+1) = 3(a+1) - 2 = 3a + 1$

Find the x-intercept and y-intercept of the graph of  $2x - 3y = -6$

9. x-intercept =  $(-3, 0)$

10. y-intercept =  $(0, 2)$

11. Write the equation  $y = \frac{-2}{3}x - 2$  in standard form.

$3y = -2x - 6$   
 $2x + 3y = -6$

Find the slope of the line that passes through each pair of points.

12.  $(-7, -6)$  and  $(3, -6)$

$$m = \frac{-6 - (-6)}{3 - (-7)} = 0$$

13.  $(4, 3)$  and  $(7, -2)$

$$m = \frac{-5}{3}$$

Find the slope and y-intercept of the graph of each equation.

14.  $3x = -15 + 5y$

$$\frac{5y}{5} = \frac{3x + 15}{5}$$

$$y = \frac{3}{5}x + 3$$

slope  $\frac{3}{5}$

y-int  $(0, 3)$

15.  $2x - 5y = 10$

$$-5y = -2x + 10$$

$$y = \frac{2}{5}x - 2$$

slope  $\frac{2}{5}$

y-int  $(0, -2)$

Write an equation in slope-intercept form for the line that satisfies each set of conditions.

16. slope =  $-\frac{2}{3}$  and passes through the point  $(6, -8)$

$$-8 = -\frac{2}{3} \cdot 6 + b$$

$$b = -4$$

$$y = -\frac{2}{3}x - 4$$

17. passes through the points  $(7, -2)$  and  $(3, -1)$

$$-1 = -\frac{3}{4} + b$$

$$b = -\frac{1}{4}$$

$$m = \frac{-1 - (-2)}{3 - 7} = \frac{1}{-4}$$

$$y = -\frac{1}{4}x - \frac{1}{4}$$

18. passes through the points  $(-2, 4)$  and  $(3, 4)$

$$y = 4$$

19. x-intercept =  $(-5, 0)$  and y-intercept =  $(0, 7)$

$$m = \frac{7}{5}$$

$$y = \frac{7}{5}x + 7$$

20. passes through the point  $(-8, -7)$  and is perpendicular to the graph of  $y = 4x - 3$

$$-7 = -8 \cdot \frac{1}{4} + b$$

$$-7 = 2 + b \quad b = -9$$

$$m_{\perp} = -\frac{1}{4}$$

$$y = -\frac{1}{4}x - 9$$

21. Find the slope of a line that is parallel to the line  $3x - 2y = 8$

$$m = \frac{3}{2}$$

22-23 A local gym charges an initial registration fee and then a monthly fee for membership. Three months of membership costs \$225, and 7 months costs \$365. Find the following:

22. Write an equation in slope-intercept form that represents the cost for  $x$  months of membership.

$$\begin{aligned} 225 &= 3 \cdot 35 + b & (3, 225) & (7, 365) & m &= \frac{140}{4} = 35 \\ 225 &= 105 + b \\ b &= 120 \end{aligned}$$

$$y = 35x + 120$$

23. Find the cost for a 10 month membership.

$$y = 35 \cdot 10 + 120 = 470$$

\*\*\*\* Make sure you look over graphing linear equations!!

